RuleML

Use Cases and Industrial Applications

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RuleML Engines and RuleML-to-X Translators

- ✓ Mandarax
- ✓ j-DREW
- ✓ SweetJess + Jess
- ✓ SweetRules + CommonRules
- ✓ Translator [Mike Dean]: to cwm
- ✓ Translator [Michael Sintek]: to XSB
- ✓ SweetOnto (formerly Bubo)
- ✓ ***More tools at: http://www.ruleml.org***

RuleML Use Cases

- Existing application scenarios in finance, retail, product configuration, e-contracting, personalization, help desk, electronic commerce, etc.
- A library of use cases is available at RuleML Web Site
- Joint work on Requirements and Use Cases for a Semantic Web Rule Language with the Joint Committee
- Joining forces with Alberto Reggiori and Andy Seaborne's Query and Rule languages Use Cases and Examples

RuleML Use Cases (Cont'd)

- GEDCOM by Mike Dean
- Discount Rulebase by Harold Boley, Said Tabet, and Benjamin Grosof
- E-Contracting by Benjamin Grosof
- Animals Benchmark KB by Said Tabet and Ernest Friedman-Hill
- Fraud Detection Rule-based System by Said Tabet

GEDCOM Rule Example

```
<rulebase>
 <_rbaselab><ind>gedcom-relations</ind></_rbaselab>
 <imp>
  <_rlab><ind>parent</ind></_rlab>
  <_head>
   <atom>
    <_opr><rel href="http://www.daml.org/2001/01/gedcom/gedcom#parent" /></_opr>
    <var>child</var>
    <var>parent</var>
   </atom>
  </_head>
  <_body>
   <and>
    <atom>
     <_opr><rel href="http://www.daml.org/2001/01/gedcom/gedcom#childIn" /></_opr>
     <var>child</var>
     <var>family</var>
    </atom>
    <atom>
     <_opr><rel href="http://www.daml.org/2001/01/gedcom/gedcom#spouseIn" /></_opr>
     <var>parent</var>
     <var>family</var>
    </atom>
   </and>
  </_body>
 </imp>
<rulebase>
```

E-Commerce Fraud Detection

Rulebase: 9 demo rules

Rule1: Suspect shipping address

Rule2: Email address is untraceable

Rule3: Orders for expensive items have a high risk of fraud

Rule4: Suspicious Billing Address

Etc…

Object-Oriented RuleML and N3

A TimBL N3 sample rule:

```
{ `
     math:greaterThan
   "30" .
}

log:implies

{ control:furnace
     control:setTo
   "1" .
}
```

In Object-Oriented RuleML:

```
<ruleml:rulebase>
  <imp>
    <_body>
      <atom>
        <_opr><rel>sensor:thermostat</rel></_opr>
        <_r n="sensor:current"><var>temp</var></_ r>
      </atom>
      <atom>
        <_opr> <rel> math:greaterThan </rel> </_opr>
        <var>temp</var>
        <ind>30</ind>
      </atom>
    </_body>
    <_head>
      <atom>
        <_opr><rel>control:furnace</rel></_opr>
        <_r n="control:setTo"><ind>1</ind></_ r>
      </atom>
    </_head>
  </imp>
</ruleml:rulebase>
```